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Towards Better Medical Statistics

BCG and Cholera Vaccine: Standardization

WORLD HEALTH ORGANIZATION
INTERIM COMMISSION

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Note by the Editor. — The *WHO Chronicle* is published at the end of each month in English, French, Spanish, Russian and Chinese. The *Chronicle* is intended to summarize some of the activities of the Organization, without, however, claiming to be an authoritative record of the official views of the Interim Commission, which are set out in the *Official Records of the WHO*. All correspondence relating to it should be addressed to the Geneva Office. Those who may wish to reproduce the text of this publication or extracts therefrom, more especially in the medical Press, are entirely at liberty to do so.

CHRONICLE OF THE WORLD HEALTH ORGANIZATION

VOL. II, No. 6 **June 1948**

" Consider what knowledge is and you will see how inseparable it is from statistics. Medicine is no exact science, and diagnosis rests largely upon the law of probability which, in turn, is statistical. All scientific experiments are statistical arguments in favour of or in opposition to certain inductions and deductions. Further, statistics lend the authority that is necessary for their acceptance. The trouble in medicine does not lie with statistical method, but with the medical men who do not know how to use it."

Dr. LAWRASON BROWN.

Towards Better Health Statistics

The Sixth Decennial Revision of the International Lists of Diseases and Causes of Death

If every member of the medical profession would come to agree with Dr. Lawrason Brown [1]—a clinician not a statistician—and sound statistical methods would be applied to medical problems, the quantitative statements in scientific papers would become more trustworthy and new opportunities for progress would be within the reach of every research worker.

Unfortunately, medical statistics remains the unwanted child of the medical profession and progress in utilizing statistical methods has been achieved only slowly and at the cost of great pains.

[1] *Amer. Rev. Tuberc.*, 1920, 4.

Classification is fundamental to the quantitative study of any phenomenon. It is recognized as the basis of all scientific generalization and is therefore an essential element in statistical methodology. Uniform definitions and uniform systems of classification are prerequisites in the advancement of scientific knowledge. In the study of illness and causes of death, therefore, a standard classification of disease and injury for statistical purposes is essential.

Sixth Decennial Revision Conference : an international success

The Sixth Decennial Revision Conference was described by some of those who followed the various stages of its work as a complete international success. Convened in Paris by the French Government from 26-30 April 1948, the Conference was opened by His Excellency M. Georges Bidault, French Minister of Foreign Affairs. Delegates from the following twenty-nine countries were present :[1]

Belgium, Bulgaria, Canada, Chile, Cuba, Czechoslovakia, Denmark, Ecuador, Ethiopia, France, Greece, Guatemala, Hungary, Iceland, India, Ireland, Italy, Luxemburg, Mexico, Netherlands, Norway, Poland, Portugal, Siam, Sweden, Switzerland, United Kingdom, United States of America and Venezuela.

The organization of the conference was entrusted jointly to the competent French administration and to the Interim Commission of WHO, which had carried out the preparatory work under the terms of the Arrangement of 22 July 1946 concluded by the Governments represented at the International Health Conference.

The Sixth Decennial Revision Conference marked the beginning of a new era in international vital and health statistics. In addition to the adoption of a single comprehensive list of diseases, injuries and causes of death, it recommended the adoption of a far-reaching programme of international co-operation.

The main task of the conference was to review the statistical classification of diseases, injuries and causes of death, as it resulted from the two sessions of the Expert Committee of the Interim Commission of WHO.[2] This task was a heavy one, as the new classification was intended to be not only a list of causes of death, but also of causes of illness.

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[1] For list of delegates, see p. 132.

[2] See *Chronicle WHO*, 1947, 1, 85, 162.

The old and the new classification

Such a list had necessarily to differ in content from the previous International Lists of Causes of Death. The work of research groups in the United Kingdom, the United States and Canada, as well as in other countries, showed clearly, however, that the general structure of previous International Lists was a useful framework around which a morbidity classification for statistical purposes could be evolved. Furthermore, the basic structure of these lists had withstood the test of well over half a century of use in numerous countries.

The very fact that no substantial changes were found necessary during that time suggests that it would be difficult to improve upon it.

The present classification, as resulting from the Revision Conference, represents an expansion of the previous International Lists to provide specific items (" categories ") for non-fatal diseases and injuries. This process of expansion has been made so as to permit comparability with important titles of the fifth International List. It was not found essential, however, that there should be strict comparability for each individual subdivision. It must be remembered that, when one compares the frequency of a disease or cause of death now and twenty years ago, one is not really comparing the actual frequency of that particular disease, but the frequency with which a particular term is used to describe a disease-state by observers differing in their education and medical outlook by a period of twenty years.

The framework of the new classification, which was approved by the Paris Conference, is given in the *Introduction and List of Categories*. Sections are provided for well-defined infective and parasitic diseases, and for neoplastic, allergic, endocrine, metabolic and nutritional disorders. The remaining diseases are classified according to anatomical site, but special sections were provided for mental disorders, congenital malformations, certain diseases of early infancy, accidents and some ill-defined conditions.

There are 800 categories in the Lists when the injuries are classified according to the " nature of injury ", or 763 when they are classified according to the " external cause of injury ". The content of each category is precisely defined by the *Tabular List of Inclusions*, which is a list of diagnostic terms assigned to each title of the classification.

In addition, an *Alphabetical Index* was prepared to assist in the coding of medical records and death certificates.

These three parts will constitute an International Manual, which will also contain rules for classification and three lists for tabulation of morbidity and mortality data. The lists are:

List A. Intermediate List of 150 Causes for Tabulation of morbidity and mortality. This List is being recommended for a minimum tabulation of mortality by age-groups and other demographic characteristics for the country as a whole, for large cities, and for aggregates of urban and of rural populations.

List B. Abbreviated List of 50 Causes for Tabulation of Mortality. This List is being recommended for a minimum tabulation of mortality for small administrative areas.

List C. Special List of 50 Causes for Tabulation of morbidity for social security purposes.

What are the International Lists ?

There is some reason for believing that the general aim of the International Lists was not sufficiently well understood in the past. Indeed, criticism was expressed that the lists were not sufficiently up-to-date in the terminology used. It should be clear, however, that the Lists are not intended to be a scientific treatise, but a working-tool for classifying available data. They are not intended to take the place of any approved nomenclature indicating the most acceptable diagnostic terms to be used for the description of a morbid condition, but to serve for the compilation of data furnished by the doctors, some of which are often expressed in obsolete language. The Tabular List of Inclusions and the Alphabetical Index therefore contain, beside many approved diagnostic terms, also less-desirable and obsolete terms, so as to allow assignment, even to an ill-defined category, of any statement found on medical records and death certificates.

Furthermore, since the official nomenclatures of diseases in many countries—such as the Scandinavian and some countries of continental Europe—contain a large number of Latin and latinized names of diseases, it was thought necessary to include a limited number of Latin synonyms of such terms as cannot be easily recognized from English or French texts, and which are seldom used in medical records of other countries. These terms were included to enable workers of all countries to understand better the type of conditions included in the categories.

Multiple Causes of Death

If only one cause were responsible for the fatal result of an illness, the application of the classification would be relatively simple. Frequently, however, several morbid conditions are present at the time of death, whether complications or other associated conditions. As routine tabulations have to be limited to the presentation of only one cause, the problem arises as to which of the stated causes should be indicated in primary tabulations. A great many countries are at present using different methods for selecting the main cause to be tabulated.

The conference agreed on the underlying cause of death as the main cause and adopted an international form of medical certification so designed as to elicit the necessary information for uniform selection of the underlying cause.

Statistics and the medical profession

The suggested form of medical certificate places upon the certifying physician the responsibility of indicating the underlying cause of death—*i.e.*, the disease or injury which initiated the sequence of morbid events leading to death. Although this method has been already the practice in some countries, it is being recommended for the first time for international adoption. It is now up to each country to strive to secure a better understanding of medical certification in order to secure more-accurate medical information. The successful application of the classification will ultimately depend upon the willingness of the attending physician to fill in correctly the certificates of death. There is sufficient evidence that members of the medical profession do not take a real interest in the quantitative aspects of their work. Satisfactory health-statistics are difficult to obtain if the doctors are indifferent to, or inadequately trained in, the elementary aspects of statistics.

The WHO was therefore invited to survey the instruction given in the medical schools of various countries in health statistics, with special emphasis on the methods of collection and interpretation of statistical data, and to undertake any desirable action in this connexion.

Problems for the future

The new international lists resulting from the Sixth Revision represent an important step forward, as they offer for the first time an international classification for causes of both illness and death. In addition to these lists, the conference also recommended for international adoption other uniform procedures in the compilation and publication of statistics, such as the medical certificate of cause of death, rules for classification and lists for tabulation.

It is to be hoped that the international statistical classification which resulted from the work of the expert committee and of the Paris Revision Conference will be employed for the compilation of statistics of morbidity and mortality by all nations. If accepted by the World Health Assembly, the new classification will be used as the necessary basis for the classification of causes of illness and death from 1 January 1950.

Hard as the numerous authors of the new classification worked for several years, they were unable to cope with all the problems with which they were confronted, and many of these are still subject to future action. Some of the most important of the still-unsolved problems, such as the systematic study of multiple causes, and the statistical problems involved in fœtal and infant mortality, including definition of stillbirth and immaturity, were brought by the conference to the attention of the World Health Assembly.

To study these problems, the conference recommended to the World Health Assembly the establishment of an expert committee on health statistics and the convening, as occasion indicates, of international technical conferences. But perhaps the most interesting and far-reaching proposal of the conference was that all governments should establish national committees on vital and health statistics, composed of representatives of national administrations entrusted with the compilation of such statistics. For those who are familiar with the difficulties of co-ordinating the various statistical services in a country in a problem of common interest, there is no need to emphasize the importance of such a recommendation.

The proposed committees are intended to study such special problems as the production of health statistics which are related to the family and the social-economic structure, and those needed for tropical diseases or in areas facing population-pressure or malnutrition. An advantage offered by such a decentralized system

would be the sharing of the burden among several groups which could specialize in certain problems and undertake detailed studies. A few of the problems suggested by the conference for study by the national committees of countries signifying interest are :

(a) the competent authorities of Belgium, France, Switzerland could study the question of completeness and accuracy of medical certification of causes of death in relation to the confidential character of the certificate ;

(b) those of Canada and the United States of America could prepare an adaptation of the International Statistical Classification of Diseases, Injuries and Causes of Death to the needs of armed services ;

(c) the Canadian and United States national committees individually or jointly could pay particular attention to the methods by which health statistics might be linked with other types of related statistics in such a manner that they will be based upon a knowledge of the characteristics and distribution of the population ;

(d) the vital statistics administration of Switzerland, the United Kingdom and the United States of America could study methods of presentation of statistics of multiple causes of death ;

(e) the competent authorities of Denmark, France, Norway, Switzerland and the United Kingdom could pay particular attention to the problem of cancer registers and statistics ;

(f) the competent authorities of the United Kingdom and of the United States of America could pay particular attention to the methods for obtaining reliable statistics on the frequency and causes of fœtal death (classification of periods of gestation under 28 weeks, classification of multiple causes, methods of certification) ;

(g) the competent authorities of France and India could pay particular attention to the problems of morbidity and mortality from tropical diseases ;

(h) the competent authorities of Ecuador, India, Italy and Venezuela could study the problems involved in the statistics of malaria morbidity.

It is recommended that the national committees, if set up, would report their findings from time to time to the expert committee of WHO for international consideration, clearance of national viewpoints and co-ordination with the interested statistical services of inter-governmental organizations.

Third session of the Expert Committee on the Sixth Decennial Revision of the International Lists of Diseases and Causes of Death

Before being submitted to the World Health Assembly for final approval and adoption, the classification was reviewed again by the expert committee in the light of the discussions at the Paris Conference.

The committee, which met in Geneva from 4-7 May, was not bound by any limitations, but was given a free hand to establish the final terms of the classification and of other related documents. This was a high mark of approbation. Indeed, it is difficult to quote similar examples of Government representatives in an international Conference showing such confidence in a small body of experts.

In a few weeks the World Health Assembly will be in a position to adopt WHO regulations for the widespread application of the new International Lists. The expert committee on the sixth decennial revision will thus be the first of the technical groups set up by the Interim Commission to conclude its work. Its task will have been completed even before the interim period of the organization has drawn to a close. Its achievement, it may be said, will stand as a model of international co-operation for other similar groups.

Biological Standardization

Second Session of the Expert Committee, Geneva, 18-23 March

Although the second session of the Expert Committee on Biological Standardization [1] concluded without any final decision on the standardization of biological products other than those for which international standards already existed, it considered carefully two

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[1] The following attended the meeting :

Professor E. Grasset, Directeur de l'Institut d'Hygiène, Geneva, Switzerland.

Dr. A. A. Miles, Director, Department of Biological Standards, National Institute for Medical Research (Medical Research Council), London, United Kingdom ;

Dr. J. Ørskov, Director, State Serum Institute, Copenhagen, Denmark ;

Major-General Sir Sahib Singh Sokhey, Director, Haffkine Institute, Bombay, India ;

Dr. W. Aeg. Timmerman, Director, Rijks Instituut voor de Volksgezondheid, Utrecht, Netherlands (Chairman) ;

Professor J. Tréfouël, Directeur de l'Institut Pasteur, Paris, France ;

[*Continued on following page*]

subjects of outstanding topical importance—the standardization of BCG and of cholera vaccines.

The standardization of **BCG** vaccine had been considered at the first session[1], but the present session provided the first opportunity for a full discussion by French and Danish workers on the differences which are known to exist in the production and application of the vaccine in Paris and Copenhagen. Although it is too early to judge the results of this exchange of views, it is hoped that the discussion will considerably assist the establishment of a standard BCG vaccine, which is desirable in view of the several antituberculosis campaigns either projected or already in operation.

Cholera vaccine

The urgency of the need for standardizing cholera vaccine became obvious during the recent cholera epidemic in Egypt, when the numerous vaccines received from various countries appeared to differ appreciably in concentration. This made it necessary for the Egyptian health authorities to adopt various methods of application and thus accept both a further complication of their already heavy task and a risk of errors being committed by the vaccinators.

The committee was confronted with a difficult task : the variability in the dimensions of the vibrios, and autolytic changes in the culture, placed difficulties in the way of standardizing the bacterial content of the vaccines by counting the microörganisms or measuring the turbidity of their suspension.

It is well known that the various strains of vibrios exhibit considerable differences in their morphology as well as in their behaviour. Yet most of the vaccines now produced include at least two of the Ogawa, Inaba and Intermediate forms of the vibrio, and it

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Dr. M. V. Veldee, Chief, Biologics Control Laboratory, National Institute of Health (U.S. Public Health Service), Bethesda, Md., United States of America ;

Secretary : Dr. R. Gautier, Counsellor of the Interim Commission.

The following were also present as expert advisers :

Dr. A. Bonnefoi, Chef du Service des Vaccins de l'Institut Pasteur, Paris, France ;

Dr. P. Bruce White, National Institute for Medical Research (Medical Research Council), United Kingdom ;

Dr. J. Bretey, Institut Pasteur, Paris, France.

Dr. J. Holm, Tuberculosis Division, State Serum Institute, Copenhagen, Denmark ; Chairman of the WHO Expert Committee on Tuberculosis.

[1] *Chronicle WHO*, 1947, 1, 109.

is not impossible that the various mixtures of strains result in some differences in the immunizing power of the vaccine.

This is one of the reasons why the wisdom of ensuring all eventualities by universal issue of mixed vaccine was questioned. In a paper submitted by Dr. Bruce White from the National Institute for Medical Research, London, the attention of the committee was drawn to the fact that " it would seem rational in combating an epidemic of single and fixed serological type and where the intercurrence of the other form or forms of cholera infection is improbable, to employ a monovalent vaccine in the hope of achieving the maximum effective response". In the opinion of Dr. Bruce White, the recent Egyptian epidemic due solely to the Inaba type furnishes a case in point. In examining samples of sera from some 40 vaccinated persons—samples supplied to him by the Egyptian public-health authorities without information as to the vaccines concerned or the dates of inoculation—he found indications that in the majority of cases the 0 antibody response, mostly of a low order (1:10—1:50), was predominantly against the Ogawa type. His conclusion was that, if the sera examined were in any way representative of those of the inoculated population as a whole, the persons inoculated were better protected against the Ogawa than the epidemic Inaba form. More study will be necessary before it is clear which of the two types of vaccine, mixed or unmixed, is apt to yield more satisfactory results, which means in effect that the standardization of the cholera vaccine will have to await the results of these studies.

The discussions of the committee left no doubt, however, that the choice of a vaccine, while remaining an outstanding problem, was not the only one for solution. It is not yet clear what form of animal-test, if any, can furnish a valid index of protective value against cholera in man. In view of these difficulties, the committee agreed to defer setting up an international standard for cholera vaccine until it had further information on the relation of immunizing potency in laboratory animals to that in man. To this end the committee expressed the hope that all facilities will be provided by the Health Authorities of India to Major-General Sir Sahib Singh Sokhey for controlled tests in man of the protective action of cholera vaccines of high immunizing potency in animals and containing all necessary smooth antigens.

In the meantime, the committee recommended the establishment of two reference-preparations of cholera vaccine of the Ogawa and

Inaba strains respectively. Dr. Veldee undertook to prepare batches of freeze-dried vaccine of proved immunizing potency in mice for these two types. These preparations will be tested by interested laboratories for their suitability as reference-preparations which, when established, will be held and distributed by the State Serum Institute, Copenhagen.

To facilitate the use of the two reference-preparations in comparative tests of potency, Sir Sahib Singh Sokhey agreed to prepare freeze-dried living cultures of virulent Ogawa and Inaba strains, which will be held by the Kasauli Institute for distribution on request to national control-centres.

In response to a request made by Dr. Shousha Pasha during the fifth session of the Interim Commission for a diagnostic anticholera agglutinating serum, the committee decided that laboratory workers throughout the world would be better served by the establishment of a reference-preparation of cholera O antigen, suitable for the immunization of rabbits, to produce antisera capable of distinguishing the true cholera and the El Tor strains from all other cholera-like vibrios. Dr. Bruce White agreed to prepare this material. Nevertheless, to facilitate the identification of Ogawa and Inaba strains within the groups of cholera vibrios, the committee recommended the establishment of reference-preparations of Inaba and Ogawa monospecific agglutinating antisera, to be prepared in India and held for distribution by the State Serum Institute, Copenhagen.

Other vaccines

The committee reviewed the possibility of establishing international standards for several vaccines, sera, toxins, antitoxins and toxoids. It was agreed that an attempt to standardize the pertussis vaccine and antipertussis sera was premature.

A number of streptococcus antitoxins of high neutralizing and flocculating potency will be examined in various laboratories for their suitability as a provisional international standard. Should an international standard be established, it would, in the opinion of the committee, be desirable to equate the potency of the proposed standard with the standard of the U.S. National Institute of Health standard.

Steps had been taken already at the first session of the committee for the establishment of an international standard for tetanus

toxoid.[1] To facilitate the provision for interested laboratory workers of samples of anomalous toxins and antitoxins, Dr. Tréfouël agreed to undertake to receive and distribute such samples. The committee considered the extensive use made both of international and U.S. National Institute of Health units in designating the potency of tetanus antitoxin, and reviewed the circumstances in which the international unit was defined in 1928. It recommended that, if informed opinion in interested countries were in favour of the step, the international unit for tetanus antitoxin should be redefined so as to equal the unit of the U.S. National Institute of Health.

A Model Tuberculosis Control Scheme in Poland

Tuberculosis annually takes toll of 50,000 lives in Poland, and 500,000 of the country's inhabitants are at present suffering from the disease in an active form.

Devastated as it was by the war, and still requiring the utmost efforts of all its people for the fundamental tasks of reconstruction, Poland has not the funds, material or personnel which a full-scale campaign against tuberculosis would demand.

These paramount factors—the extent of the problem and the lack of means to cope with it effectively—were governing considerations in studies undertaken by the Interim Commission in the autumn of 1947, in response to a request from the Polish Government for advice on its tuberculosis programme. A plan was conceived for the establishment in one of the provincial centres, by the co-operation of all interested Polish and foreign agencies, of a model tuberculosis-control scheme with adequate dispensary and laboratory facilities.

Dr. W. Gellner, one of the Secretariat's tuberculosis specialists, went to Poland at once, to place the proposal before the authorities in detail and advise on putting it into effect.

The object of the model scheme is to furnish the means for gaining experience in the application of methods of fighting tuberculosis which have been practised in many countries with great success. With such modifications as may be required by specific economic and social conditions, the scheme will develop the most suitable methods and procedures and will thus be able to serve as an example and training-centre for the whole country.

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[1] *Chronicle WHO*, 1947, 1, 107.

Several considerations suggested the choice of the City and Province of Lodz for the location of the centre. The city and province form a unit having some 2,400,000 inhabitants, of whom two-fifths live in industrial and the remainder in rural areas—a division of population proportionate to that of the country as a whole and on a large enough scale for the purposes of the scheme. The workers of the city area are organized in trade unions affiliated to a federation of trade unions whose co-operation it was hoped to enlist in the work of tuberculosis control. Furthermore, Lodz is a university city with a long tradition in tuberculosis work which will benefit the work in the province.

It was recognized, as the first principle of organization, that the campaign would need the co-operation of the State, of social insurance organizations, of those voluntary organizations, such as the Polish Red Cross and Caritas, whose programmes permit, and of other public bodies—workers' unions, peasants' organizations, Women's League, etc. A close collaboration of the Ministries of Industry, Labour and Social Welfare, and Health, and of all other State departments concerned, was essential.

To put this principle into effect on the limited scale of the area selected for the scheme, a meeting was held on 18 October 1947 in the offices of the Provincial Government. It was attended by representatives of the State, the City of Lodz, the Social Insurance Institute, the Army, the Polish Red Cross, Caritas, and other bodies. The agencies and institutions represented affirmed their resolve to co-operate in the model control scheme, and constituted a provisional Joint Tuberculosis Committee, the establishment of which was subsequently confirmed by the Government.

The function of the committee will be to administer in the province of Lodz a programme of tuberculosis control previously approved by the responsible government departments. Provision was made for the creation of three sub-committees—one for propaganda and health education, the others for medical organization and social assistance respectively—and it was agreed that the committee should establish an office headed by a director.

The second principle of organization was to ensure for villagers the same possibilities of diagnosis, treatment, and after-care as would be at the disposal of city-dwellers. This entailed the establishment in the main towns of the counties (powiats) of properly equipped and staffed tuberculosis dispensaries, to which all suspect

cases would be referred for definite diagnosis from dispensaries lacking the necessary equipment.

The third principle was the notification of all discovered cases of tuberculosis to a central office to be established in connexion with the Joint Tuberculosis Committee to register such cases and to record their clinical condition and movements.

The scheme will embody the following basic features :

Intensive health propaganda. It is proposed to utilize every possible channel of approach to the public—Church, radio, film, Press, school, organized labour. Without causing unnecessary alarm, this propaganda will lay special stress on the danger of infection and how to avoid it, the value of mass examinations and prophylaxis, the importance of individual examinations when certain symptoms become apparent, and the good chances of a cure for cases discovered at an early stage of the disease. But it will at the same time educate the individual citizen to a sense of his responsibility for help in the solution of the problem.

Prophylaxis by BCG vaccination. It is now generally accepted that BCG vaccination produces a certain degree of immunity, and in a country like Poland, where the sources of infection are so numerous, large-scale vaccination is definitely indicated. Valuable work in this direction has been done by the Danish Red Cross in different parts of the country. The model control scheme proposes to concentrate the work in the Lodz area, and to supplement it with tuberculin-testing.

Case-finding by mass radiography. Large selected groups of the population, such as the workers of certain industries and trades, and perhaps the entire populations of some villages, and of towns of both small and larger size, will be examined.

Improvement and unification of the methods of diagnosis. The aim is to put at the disposal of every suspect tuberculous person the possibility of a complete investigation, including radiography and sputum test, in order to make possible an adequate classification of the cases and to establish a rational system of disposition of the patients according to their classification.

Institutional treatment. The number of beds available for treatment of patients in the country is grossly insufficient, and for this

reason the government's announcement that the number of institutional beds for tuberculosis would be increased in 1948 by several thousands was greeted with great satisfaction. The Joint Tuberculosis Committee will have to explore all means of increasing the number of beds at their disposal.

Measures of diversional and occupational therapy are also planned to counteract the tedium of institutional life and provide a link with the outside world.

The study and application of the latest methods of chest-surgery and chemotherapy. The newly established municipal hospital-sanatorium at Chojni (Lodz) will serve as the centre for this work.

Rehabilitation of the patient. A series of practical measures will aim at enabling the clinically cured and the chronic tuberculous patient to take part again in the social and economic life of the community.

Social assistance. It is hoped to establish facilities for social assistance to support the patient and his dependants during the period of his illness. This part of the plan is probably the most difficult. The non-existence of such facilities at present militates against the effectiveness of all other control measures.

Dr. Gellner remained in Poland two months (September-November 1947), and later returned for a further month (February-March 1948). During his visits he had numerous discussions with Ministers and their assistants and with the representatives of organizations, and received assurances of co-operation on all sides.

The Ministry of Industry and Commerce promised help for three special projects : the establishment of a tuberculosis sanatorium for textile workers of the Lodz district and of a night sanatorium for such patients as are in a condition to work, and an investigation by mass radiography into the incidence of tuberculosis in the Lodz textile industry. The same Ministry undertook to finance from the " UNRRA Zloty Fund " an administrative office of the Joint Tuberculosis Committee ; and this office has been established since 1 January 1948.

The Lodz Federation of Trade Unions agreed to support the scheme out of their own funds and to organize collections within their affiliated trade unions for the same purpose.

Other Polish agencies giving co-operation include the Peasants' Self-Help Organization in Lodz, the Polish Red Cross Society, the Women's League and Caritas.

Foreign organizations which have given practical co-operation include the British Council, the National Association for the Prevention of Tuberculosis (London), the National Tuberculosis Association (New York), the Belgian Œuvre Nationale, the League of Red Cross Societies (Geneva), the Don Suisse, the World Students' Relief Society, the Anglo-American Quaker Relief Mission, the Baptists' Relief Committee for Poland, the American War Relief Services, the Polish American War Relief, the Swedish Relief Services, and the Danish Red Cross.

NOTES FROM THE FIELD

Sandfly control

Dr. Marshall Hertig, medical entomologist of the Gorgas Memorial Laboratory, Panama, arrived in Greece during the first week of June to evaluate the DDT anti-malaria campaign there in terms of sandfly control. As the average sandfly-population of houses in Greece was known before the launching of the DDT campaign, it is believed that a new estimate of sandfly-population would provide useful means of checking the efficacy of DDT against mosquitos. Dr. Hertig's visit is sponsored by the Greek Government and WHO and the Gorgas Memorial Laboratory is granting him leave of absence to conduct this survey in Greece. Dr. Hertig has specialized in kala-azar work for many years and recently demonstrated the effective use of DDT in the control of Phlebotomus in Palestine.

Medical help for the UN Balkan Committee

At the request of the United Nations Special Committee on the Balkans (UNSCOB), the Chief of the Greek Mission of WHO in Athens, Dr. J. M. Vine, flew to Salonika with a Danish nurse whose services he had obtained on behalf of the Commission. Dr. Vine gave a talk on health protection to the staff and some of the delegates and arranged for a supply of medical stores. The nurse remained behind when Dr. Vine returned to Athens.

Tuberculosis expert visits Ethiopia

Dr. D. R. Thomson, the tuberculosis adviser in the Greek Mission, has been loaned to the Ethiopian Mission, at the request of the Ethiopian Government, to carry out a survey of the problem of tuberculosis in that country and make recommendations. He left for Ethiopia on 13 May, after visiting Copenhagen in connexion with BCG.

Austria

The following is an example of the way in which various international health activities may be mutually helpful, if properly integrated.

Blood transfusion by the constant-drip method had not been practised in Austria up to the present, and blood banks had not been established. The joint WHOIC/Unitarian Mission to Austria last year aroused great interest in these methods, and a desire to introduce them was expressed in a number of Austrian medical quarters. The American Red Cross was approached to supply the necessary equipment and news has been received that this request has been approved and that assistance will probably be given to all the main centres in Austria. In Vienna, the necessary laboratory work will be carried out by an Austrian doctor recently returned from America from a WHO Fellowship, and a small blood bank has already been established in the surgical clinic to which another WHO Fellow has been attached as an anæsthetist, following the study of modern anæsthetic methods in England.

WHO PUBLICATIONS

Epidemiological and Vital Statistics Report

Vol. I, No. 9, February 1948:

Decline in Infant-mortality Rate

In nearly all countries where adequate information is available, the infant-mortality rate is now as low as, or often lower than, it has ever been. This is the conclusion reached by Mr. Knud Stowman, Epidemiological Consultant to the Interim Commission, in an article on infant mortality, published in the *Epidemiological and Vital Statistics Report*, 1948, Vol. I, No. 9 (February). The reasons for this, the author suggests, are to be found in the highly developed technique for the protection of infant life, and in the effective help rendered to war-ravaged countries by international action.

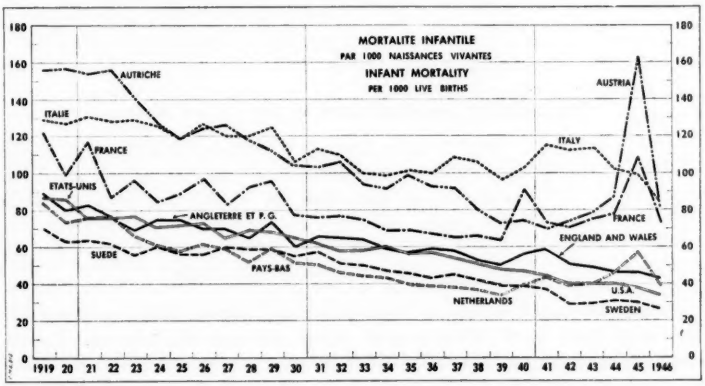
The steady reduction in infant mortality began little more than fifty years ago, in most countries even more recently. In 1876-1880, all of Europe, with the exception of the British Isles and the Scandinavian countries, had infant-mortality rates exceeding 150 per 1,000 live births. In Austria-Hungary, southern Germany and Russia, the rates were 250 or more per 1,000. In 1912, when rates were below 100 per 1,000 in England and Wales, Ireland, the Netherlands, Scandinavia and Switzerland, they were still above 180 in Austria-Hungary, Roumania and Russia. But by 1932, only Hungary and Roumania recorded such high rates; and, so far as is known, they had disappeared from Europe by 1946. Of all the countries which published statistics, only four reported rates of 160 or more, and none above 185 per 1,000 live births.

Immediately before the Second World War, infant-mortality rates of less than 50 per 1,000 were reported in Australia, Iceland, the Netherlands, New Zealand, Norway, Sweden and Switzerland. To these countries must now be added Canada, Denmark, the United Kingdom, the United States, and the white population of the Union of South Africa. In Australia, New Zealand and Sweden, the infant-mortality rate is even below 30 per 1,000. Rates varying between 56 and 85 per 1,000, which would have been considered highly satisfactory in almost any country twenty years ago, were recorded in 1946 in Austria, Belgium, Finland, France, Ireland, Italy and Spain. These groups together cover nearly all of northern, western and southern Europe, as well as the temperate zones of America and Oceania.

Infant-mortality rates from 100 to 130 prevailed in 1946 in Bulgaria, Czechoslovakia, Germany, Hungary, Malta and Portugal, as well as in Mexico, Venezuela and certain Central American states. Before the Second World War, rates of about 140 were reported in Poland and Yugoslavia, but more recent information has not been received from these countries. Rates from 160 to 185 were reported in 1946 in Chile, Egypt, India and Roumania.

These figures summarize the present situation in those countries which reported infant-mortality data to the Interim Commission or to the United Nations Statistical Office. It will be seen that very high rates are now the exception, and that there is a tendency to a natural grouping reflecting the general trends of economic and social conditions.

Infant-mortality rates for the years following the Second World War are interesting in that they bear no relation to the increase in the birth-rate. The striking increase in the birth-rate characteristic of the last two years has not resulted in a corresponding increase in infant mortality. With a birth-rate of 30 per 1,000 inhabitants and an infant-mortality rate of 39 per 1,000 live-births, the Netherlands has proved that security of infant life is not incompatible with a vigorous fertility.



It must be pointed out, however, that no information has been received from Far-Eastern countries and from the greater part of Africa—both areas where conditions are far from satisfactory.

So far, figures for only the total infant mortality are available for the years following the Second World War. A more valuable and informative analysis may be made when data regarding the age-distribution of infant deaths become available. The reduction of neonatal mortality depends mainly on prenatal care and on good obstetrics. It goes hand-in-hand with the reduction of maternal mortality. The reduction of mortality in infants aged over one month depends largely on correct feeding and control of environmental factors. It follows the establishment of health centres, and the improvements of general public-health work.

Summarizing the reports received, Mr. Stowman points out that, despite the progress achieved, there are still considerable differences from one country to another in the chances of survival of the newborn. In the more favoured countries, they have a 97% chance to reach the age of one year, but in others less favoured only an 80% chance. However, even in these latter countries, their chances are constantly increasing.

REPORTS FROM WHO FELLOWS

Many of the letters and reports received from WHO Fellows have been of such interest that they deserve to be read by a wider public. They demonstrate more vividly than a series of facts and figures both the character of the fellowship programme and the response of the Fellows themselves. Selections from these reports will therefore be published from time to time, but it must be emphasized that the opinions expressed are those of the Fellows.

* * *

Public-Health Administration in the United States

Dr. Vladislav Kapalin is a district health officer in the city of Prague, Czechoslovakia. He has recently spent six months on a study-tour as a WHO Fellow studying public-health administration with special reference to maternal and child welfare and school hygiene in the United Kingdom and the United States.

During my tour I visited schools in Baltimore, Boston, Chicago, New York City, New York State, Philadelphia, Rochester and Washington. I used every opportunity to discuss the different aspects of school-health organization with the officials of the services in departments of health or education, as well as with school doctors and school principals. The types of services naturally vary widely. In some places, as in Chicago for example, only the control of communicable diseases is organized ; in other places, as in New York, complete examination of all children is made every year. One of the best-organized services was that in Philadelphia.

The Commonwealth of Pennsylvania on 1 June 1945 passed a new school-health act requiring a complete medical and dental examination of children of school-age and of teachers and other school employees in all elementary and secondary schools within the State. This complete examination is made as a routine measure once every two years. Additional examinations are made on the recommendation of the teacher or the nurse. Not more than four complete medical examinations may be made in one hour, and each doctor must be assisted in the examination by a registered nurse. Parents of the children are urged to be present at the examination, and the opportunity is used for health education. Great emphasis is placed on the follow-up of the correction of all discovered defects, and this task is left principally to the school nurses.

In general, the new trends in school-health services are : less frequent but more complete examinations of school-children ; better follow-up and

correction of discovered defects; better services for crippled children; closer co-operation with teachers, doctors, nurses and parents; and improvement of health education.

The protection of the mother and child forms one of the most effective parts of the public-health programme in the United States. The results so far achieved in reducing the infant-mortality rate in the past forty years have been most encouraging, and have resulted in a decrease from 161 per 1,000 live-births in 1900 to 39 in 1944.

The Children's Bureau in Washington co-ordinates the general programme and provides information and advice to the state services. I visited many maternity hospitals, nurseries for the new-born, and special nurseries for the premature-born. In addition, I visited many welfare clinics and clinics for expectant mothers, and discussed with their staff local regulations and the recent developments in these services.

The Rochester Child Health Project is one of the most complete programmes for maternal and child health in the United States. The prenatal clinic is interested not only in the health and the diet of the expectant mother, but in her mental attitude towards the coming baby. After the birth of the baby, every effort is made to give the mother and infant not only adequate physical care, but also to encourage the mother to have the correct mental approach towards the child. When the mother returns home, the public-health nurse helps her with the care of the child and encourages her to take it regularly to the welfare clinics. In the case of normal development, the mother visits the clinic every month during the child's first year of life, every second month during the second year, and then every sixth month until the child comes of school-age. At the welfare clinic, the child is examined for general health-supervision, satisfactory feeding, and for immunization against certain communicable diseases. Emphasis is placed on teaching the parents about the social development and habit-formation of their children. The education of parents is continued in pre-school clinics, but nursery schools are used as demonstration centres for all mothers. This programme in Rochester covers all children from their infancy to the conclusion of their period at high-school.

The public-health nurse is one of the most successful members of the public-health services in the United States. I was extremely interested in following their educational curriculum and their work in the field, especially in relation to health education in families.

When I compared the organization of public-health services in the United States with that existing in my own country, I found in each case that the health services in the United States were more highly developed and consequently were more successful. When I considered the matter further, I found that the structure of the Czechoslovak public-health organization is often very sound, but the interpretation and the use of health regulations throughout the general public rather poor. In other words, I feel that it is health education which has made the public-health organization in the United States so successful.

NOTES AND NEWS

Biological Standardization

At its last session, the Expert Committee on Biological Standardization recommended that an international unit be established for the international standard for Old Tuberculin and proposed that this unit be defined as the activity content in 10 micrograms of the international standard preparation.

*

The committee was informed that the Department of Biological Standards of the National Institute for Medical Research had established a provisional British standard for *d*-tubocurarine and had defined a provisional British unit of activity.

*

The Department of National Health and Welfare of Canada and the Department of Biological Standards of the National Institute for Medical Research, London, intend jointly to adopt a Canadian-British standard for oxophenarsine hydrochloride. The committee was informed of these plans but did not consider that international action would be justified at this stage. An offer made by the two countries to place their standard at the disposal of the committee as a reference preparation for oxophenarsine was accepted.

*

The committee considered that there was at present no need for an international standard or reference preparation for Dimercaptopropanol (BAL).

Ceylon and Monaco apply for membership

The Dominion of Ceylon and the Principality of Monaco have applied for membership in the World Health Organization.

These requests will be submitted to the World Health Assembly, which met for the first time in Geneva on 24 June.

Membership in the World Health Organization is open to all States provided their application is approved by a simple majority vote of the World Health Assembly.

Special postal cancellation during World Health Assembly

The Swiss Post Office has made arrangements for a special cancellation to be used on all mail posted at the United Nations Branch Post Office, in the Palais des Nations, for the duration of the First World Health Assembly.

Mail sent out from that branch will be marked " *Genève, 1re Assemblée mondiale de la Santé* ", together with the date of posting. Since this will be the only post office in Switzerland using the special cancellation, the total number of cancellations of this kind will be relatively small, thus increasing their philatelic value.

Ratifications

Afghanistan, Belgium, Brazil, Bulgaria, Denmark, France, Hungary, Iceland, Pakistan, Poland, Roumania, the United States of America have ratified the Constitution of WHO. This brings to 49 the number of full members of the new organization. In addition Burma, the Philippines Republic, Paraguay and Venezuela have also ratified the Constitution, but without having deposited as yet the instruments of ratification.

WHO Representation

During the period between 16 April and 1 June, the Interim Commission was represented by observers who attended or took part in the meetings of the following organizations :

Second Special Session of the United Nations General Assembly, Lake Success, 16 April.

Conference on Safety of Life at Sea, London, 23 April.

General Conference on Specialists, PCIRO, Gwatt, Switzerland, 26-30 April.

Drafting Committee of the Commission on Human Rights, Lake Success, 3 May.

Fourth International Congresses on Malaria and Tropical Diseases, Washington D.C., 10-18 May.

Second Session of the Division on Facilitation of International Air Transport, ICAO, Geneva, 17 May.

Third Session of the Commission on Human Rights, Lake Success, 20 May.

Recent and Forthcoming Meetings

15 June - 16 June : Expert Sub-Committee on BCG and Tuberculin, Paris.

24 June : First World Health Assembly, Palais des Nations, Geneva.

30 June - 31 July : Expert Sub-Committee on Streptomycin, New York.

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